REMARKS

This amendment is filed in response to the Office Action dated April 7, 2006 in the present application. The present amendment is filed, with a three month Extension of Time, on October 10, 2006 which is the first USPTO business day after October 7, 2006.

Drawings

Accompanying this amendment is a Request for Drawing Change to correct the numeral 21 in Fig. 1 to be 31 as pointed out by the Examiner. Applicant also seeks change of the numeral 23 on a conductor between Power Supply 17 and Barrier Movement Control 15 to the numeral 22. The last change is requested because the numeral 23 was used twice in the figures. A consistent change to the specification is made in the above amendments.

Specification

In paragraph 2a. the Examiner indicates that it is unclear how the power supply 17 creates a 28 volt DC across conductors 23 and 25. The power supply 17 receives mains AC voltage which AC voltage is converted by conventional operation into DC voltages including the 28V DC between conductors 23 and 25. As described in the specification the voltage produced by Power Supply 17 is used, when available, to power the operation and battery charging of Battery Backup 39. The remaining items of paragraph 2 have been corrected in the manner suggested by the Examiner.

Claim Objections

Claim 1 is objected to due to its use of the terms first input port and backup port. Claims 2-9 are objected to due to their dependence on claim 1. Claim 1 has been canceled and replaced with new claim 10 and the claims 2-9 have been amended for consistency with the new claim 10. The reference to input and back up ports is now deleted from the claim, removing the basis for the objection. The change suggested for claim 3 has been included in the above amendments.

In paragraph 5, the Examiner proposes that the current limiting circuitry of claim 5 is not properly disclosed because the current limiting circuitry (resistors 29 and diode 27) is shown in Fig. 1 to be in the operator 11. The current limiting circuitry should be, as claimed, connected to limit current to the battery terminal. The examples described in the specification and shown in Fig. 1 include the current limiting within a box called barrier movement operator, but such is not its only location as recited in the claim. The text section on page 2, lines 15-18 merely states that barrier movement operators are known, not that all parts shown within dotted box 11 are known. the "non traditional" parts shown in box 11 can be connected as shown in Fig. 1. Additionally, claim 5 has been in the application since the original filing and thus, represents disclosure of the application. To the extent that claim 5 represents an additional embodiment it has been in the application since filing and should not now be objected to.

In paragraph 5 the Examiner objects, but does not reject, claim 1 because there is no written description in the specification to support the recited limitation of a battery charging circuit for charging the battery when the input DC voltage exceeds a predetermined value. A person of ordinary skill in the art is provided with ample description in the application as filed. The description clearly shows and describes a microprocessor 51 which senses a number of voltages including the DC input voltage on conductor 33 from power supply 17 (see page 5, lines 20-21). Microprocessor 51 pulses a power FET 79 to charge the battery and microprocessor 51 is described as controlling the pulsing based upon at least some sensed voltages. Further, claim 1 as originally filed constitutes part of the disclosure and clearly indicates that the charging occurs when input DC voltage exceeds a predetermined amount. A person of ordinary skill in the art would be apprised from the above disclosures that the input voltage on conductor 33 should be compared to a predetermined threshold and that changing pulses should be created when the threshold is exceeded. Accordingly, the objection is traversed. Claim 6 has been amended to recite that the circuitry for limiting current limits to less than a maximum amount. Such is clearly described at, for example, page 3, lines 13 and 14. Accordingly the objection to claim 6 has been traversed.

Rejections - Prior Art

Claims 1-3 and 5-8 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Publication 2003/0063715 to Peplinski. Claim 1 has been cancelled and replaced by claim 10 which is now the present application's only independent claim. The rejection of former claim 1 is applied to claim 10 herein. In new claim 10 the port terminology has been removed and new elements have been added to further clarify the claim.

As described in the present application, applicants arrangement includes a power supply 17 which is connected via a conductor 21 to power barrier movement controller and is connected via conductors 23 and 25 to power a battery changing arrangement 39. As long as input AC voltage is present a DC voltage is applied to the battery charging arrangement and charging current is applied to the battery 37 in amounts controlled by a microprocessor 51 acting through a charging circuit 63. When input AC voltage fails, the DC voltage from power supply 17 on conductor 23 and the connected conductor 33 will drop below the voltage of battery 37 because no power is being supplied by the power supply. When the DC voltage on conductor 33 drops, diode 43 becomes forwardly biased and DC voltage flows from battery 37 through diode 43 to the power supply 17 where it is used to power the barrier movement controller. From the above it can be seen that when AC input voltage is present current flows from power supply 17 to the battery charger via a path including conductors 23 and 33. Alternatively, when AC input voltage fails, current flows from battery 37 to the power supply 17 via a path also including conductors 23 and 33. Thus, current flows in one direction on 23 and 33 to charge the battery and flows in the reverse direction on conductors 23 and 33, when AC input fails, to power the barrier movement operator.

Claim 10 includes a DC voltage supply connected to a barrier movement controller and to a battery charging circuit. When the power supply voltage exceeds a predetermined voltage, the voltage from the DC voltage supply on the first conduction path is used to charge a battery. The claimed combination also includes a unidirectional device which. when DC voltage from the DC voltage supply drops, allows current to flow in the reverse direction from the battery to the DC voltage supply via the first conduction path. Thus, the first conduction path is used bi-directionally to charge the battery and at separate times to power the barrier movement controller from the battery.

Claim 10 recites a DC voltage supply which is connected to both a barrier movement controller and to a battery charging circuit. No such DC voltage supply having the claimed two connections is taught or suggested by Peplinski. The Peplinski power supply is connected only to battery charging circuits and is used only to charge the batteries via individual charging circuits. Claim 10 also claims a unidirectional isolation device for connecting DC voltage from the battery to the DC voltage supply (which also provides charging power). No such unidirectional isolation device is taught or suggested by Peplinski. Peplinski includes a diode D1 which the Examiner equates with applicants unidirectional isolation devices. In Peplinski at paragraph 42 the only function of D1 is to <u>prevent</u> battery B1 from back feeding through 220. Nothing is suggested about using D1 to <u>permit</u> reverse current flow from the battery to a power supply. Further, as discussed in Peplinski at paragraph 38, when a loss of external power (AC mains failure) occurs, switches S2 and S4 are switched to open position to disconnect the batteries from their respective power supply. Thus, battery voltage is not even present at the diode D1 to be connected to the DC voltage supply. In view of the foregoing, applicant asserts that claim 10 is allowable over the Peplinski reference. Claims 2-9 are asserted to be allowable due to their dependence on claim 10.

Claim 9 stands rejected under 35 U.S.C. 103 as unpatentable over Peplinski in view of U.S. Patent 5,844,328 to Furst. Claim 9 recites circuitry that disconnects the first battery terminal when the first conduction path is disconnected from the DC voltage supply. The combination represented by claim 9 is not taught or suggested by a combination of Peplinski and Furst. The Examiner states that it would be obvious that a processor could detect a short across the battery back-up and disconnect the battery. This is not what claim 9 recites. In claim 9 disconnection, from the first conduction path, not a short is detected. For this further reasons, claim 9 is asserted to be allowable.

The Commissioner is hereby authorized to charge any additional fees which may be required in this Application to Deposit Account No. 06-1135.

Respectfully requested,

FITCH, EVEN, TABIN & FLANNERY

By ______________________
Kenneth H. Samples
Registration No.: 25,747

Date: 10/10/2006

120 South LaSalle Street
Suite 1600
Chicago, Illinois 60603-3406
Telephone: (312) 577-7000
Facsimile: (312) 577-7007